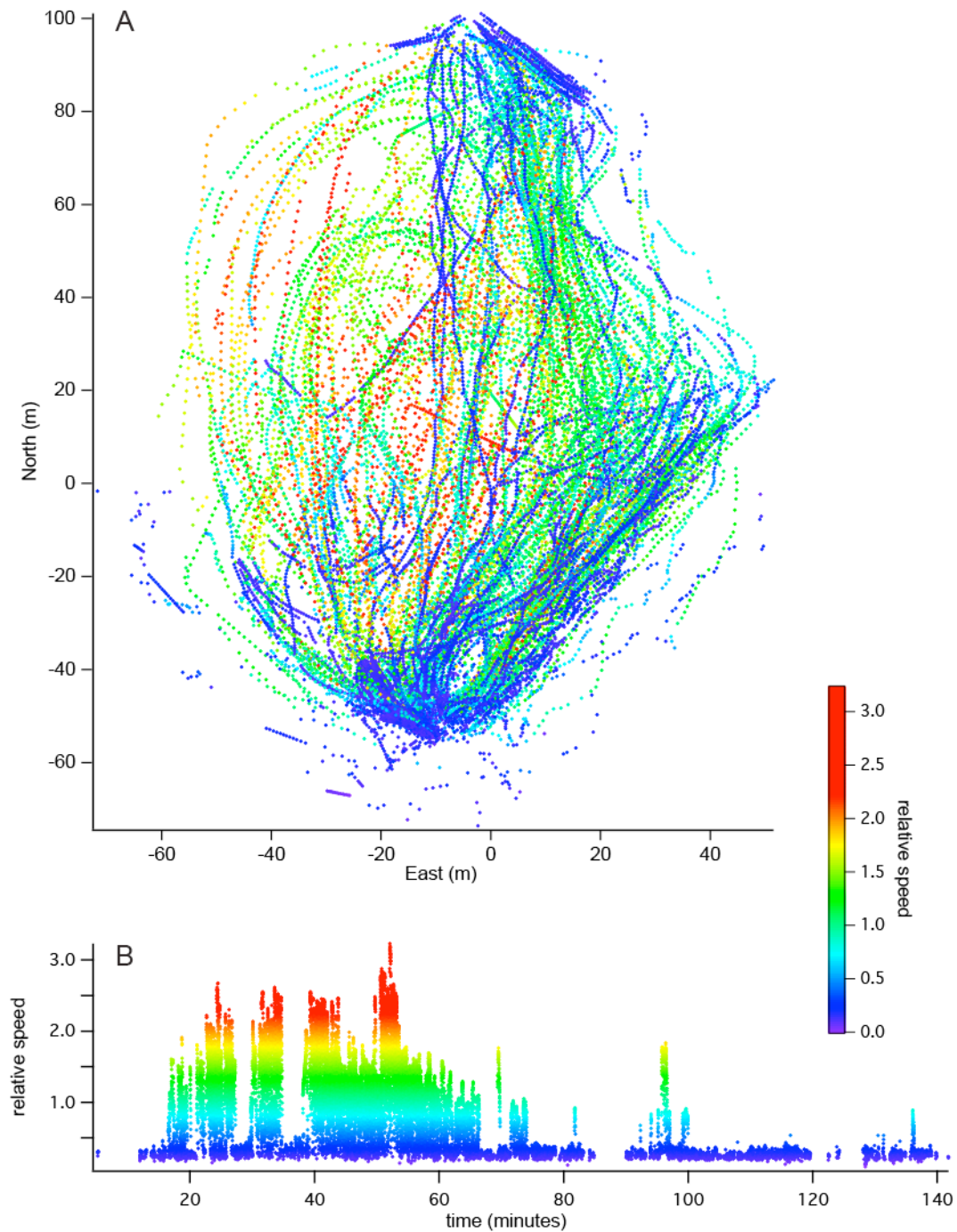
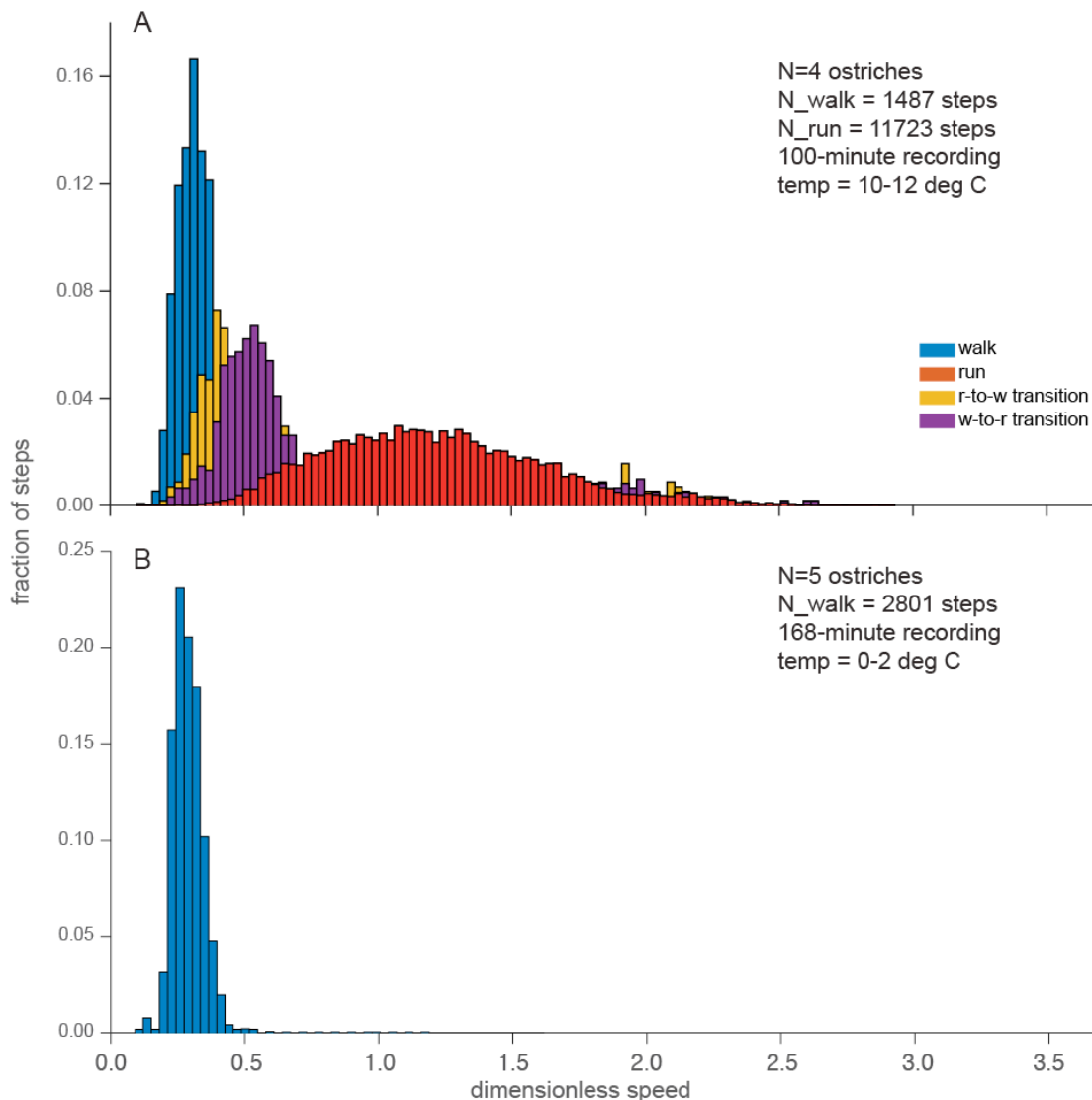


### Supplementary Information



**Figure S1.** **A)** Distribution of 'steady' steps recorded from the flock of ostriches within their home paddock, with color indicating relative velocity. Note that rapid accelerating and turning steps were excluded based on the criteria described in Materials and Methods. **B)** Relative velocity of recorded 'steady' steps over the entire recording period, for all individuals.



**Figure S2.** Probability distributions of steps classified as walking, running, walk-to-run transitions and run-to-walk transitions on two separate recording days, in addition to that reported in the main text. Data shown from a subset of 4 ostriches (**A**, top) and 5 ostriches (**B**, bottom), such that each ostriches was recorded 2-3 times in total across the 3 recording days. Ostriches were not chased during either of the sessions shown here, and both recordings occurred around mid-day during clear weather. In **B**, we recorded only walking activity. We speculate that this may be a temperature effect on activity, because it was particularly cold (0-2°C). However, the current study was not designed to investigate environmental factors on activity levels, and other uncontrolled factors likely varied between sessions. Nonetheless, the shape of the speed distribution for each gait appears consistent across recording sessions, despite variation in levels of walking and running activity.